

REMARKS

Please reconsider the present application in view of the above amendments and the following remarks. Claims 1-15 and 17 are currently pending. By way of this response, claims 1, 2, 7, 8, 10-13, 15 and 17 are amended, and claim 16 is canceled.

Response to Rejection Under 35 USC § 112, Paragraph 2

In the 2nd paragraph of the Office Action, the Examiner rejected claims 1-16 under 35 USC § 112, ¶ 2 as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, claims 1 and 11 recites limitation “the first and second data words” with allegedly insufficient antecedent basis. Claim 15 recites the limitation “the load” with allegedly insufficient antecedent basis. Claim 16 recites the limitation “the precharge situation” with allegedly insufficient antecedent basis. The Examiner also asserts that the meaning of “precharge situation” is not clear.

Claims 1 and 11 have been amended to replace the limitation “the first and second data words” with a limitation “a first data word and a second data word.” Claim 15 is amended to remove the limitation “the load.” Claim 16 is canceled. Therefore, Applicants respectfully request that the Examiner reconsider the § 112 rejection, and withdraw it.

Response to Rejection Under 35 USC 102(b) in View of Hansen

In the 4th through 14th paragraphs of the Office Action, the Examiner rejected claims 1-12 under 35 USC § 102(b) as allegedly being anticipated by U.S. Patent No. 6,006,318 to Hansen et al. ("Hansen").

Claim 1 has been amended to now recite:

determining a sequence of retrieving the data segments, the sequence of retrieving the first data segment and the second data segment determined by retrieval of other data segments from the same memory bank;

retrieving the data segments in parallel from the plurality of memory banks based on the distribution and the sequence;

Thus, claim 1 as amended recites a method that retrieves a first data segment of a first data word and a second data segment of a second data word from a memory bank by determining a sequence based on retrieval of other data segments from the memory bank, and retrieves the data segments based on the sequence. These claimed features are advantageous because they improve the efficiency of the memory bank's usage. Because the sequence of retrieving a data segment from a memory bank is determined based on retrieval of other data segments from the memory bank, the data segments can be retrieved in a sequence tailored to maximize the performance of the memory bank (e.g., to retrieve neighboring data segments in a single burst). Thus, the claimed invention may retrieve the data segments for the first data word and the data segments for the second data word from one memory bank in a sequence regardless of the sequence it retrieves the data segments for the two data words from another memory bank. Amended independent claims 11 and 17 include limitations similar to claim 1.

Hansen does not disclose claim 1 as amended. Specifically, Hansen does not disclose “determining a sequence of retrieving the data segments, the sequence of retrieving the first data segment and the second data segment determined by retrieval of other data segments from the same memory bank.” Hansen discloses a system for media processing that maintains substantial peak data throughput in the execution and transmission of multiple media data streams. See Hansen, col. 4, ll. 3-13. The Examiner cited Figure 13 and col. 19, ll. 16-25 of Hansen to support the rejection. However, the cited section merely discloses a memory interface coupled to four standard memory devices, wherein each standard memory device includes four banks of DRAM. The Examiner also cited Figure 14 and col. 19, ll. 31-36 to support the rejection. However, the cited section merely discloses a memory interface supporting interleaving and page mode access, which is different from the claimed invention. Specifically, Hansen is all-together silent as to determining a sequence of retrieving data segments from a memory bank based on retrieval of other data segments from the same memory bank. The Examiner indicated that “the sequence of retrieving the data segments is determined by the banks are arranged and is the same as the sequence of distribution for storage, i.e., sequencing of the four data segments/word stored in banks 1-4 are preserved so that when they are retrieved....” See the Office Action, page 3, paragraph 5. Therefore, the Hansen system determines the retrieval sequence of the data segments based on their storage sequence, not the retrieval of other data segments from the same memory bank. Therefore, Hansen fails to at least disclose these claim limitations of amended independent claims 1, 11 and 17.

In view of the above, Applicants respectfully submit that for at least these reasons independent claims 1, 11 and 17 are patentably distinguishable over Hansen. Dependent

claims are allowable for at least the same reasons. Accordingly, withdrawal of the § 102 rejections is respectfully requested.

Conclusion

Applicants respectfully submit that the pending claims are allowable over the cited reference, and request that the application be passed to issue. The Examiner is invited to contact the undersigned by telephone to advance the prosecution of this application.

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